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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,619	08/28/2003	Kazuhiko Arai	16996	8315

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SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
SUITE 300
GARDEN CITY, NY 11530

EXAMINER

LU, TONY W

ART UNIT PAPER NUMBER

2878

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,619

Applicant(s)

ARAI ET AL.

Examiner

Tony Lu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-16 is/are allowed.
- 6) ☒ Claim(s) 1-12, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/28/2003
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,13,16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "A calibration pattern unit which obtains correction information of an imaging system by imaging at the imaging system" is unclear.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Buyalos, Jr. US5214872.

Buyalos, Jr. discloses an unit comprising: a framework member with a flexibility(82); a supporting member(12), made of a flexible material, and configured to use a tensile force generated by fixing the framework member in a predetermined

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position to be formed in a shape combining three-dimensionally arranged curved surfaces(fig.2B); and a calibration pattern in which a predetermined pattern(fig.1) is formed on a predetermined surface of the supporting member. Furthermore, the framework member and the supporting member of the unit can be separated from each other.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1,2 and 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michael et al US5768443 in view of Fowler US 4689523.

With respect to claim 1 Michael et al disclose a calibration pattern system for an imaging system formed by combining a plurality of three-dimensionally arranged planes, the system comprising: supporting members each of which has a predetermined surface corresponding to one of the planes(fig.4, first form); and a calibration pattern(12,14,16) in which a predetermined pattern is formed on the predetermined surface of the supporting member; and another embodiment of the calibration pattern system in figure 1(second form).

Michael et al fails to disclose the supporting members each can selectively set the calibration pattern system to a first form for photographing when the correction information is obtained, and a second form for other purposes.

Fowler discloses hinges(90,92) for connecting three supporting members(fig.6) for desired angular positioning.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Michael et al by the inclusion of hinges as taught by Fowler in order to provide wide variety of flexible configurations of the system.

With respect to claim 2, per the above discussion, the proposed system of Michael et al in view of Fowler discloses a volume occupied by the first form is larger than that occupied by the second form.

With respect to claim 4, per the above discussion, the proposed system of Michael et al in view of Fowler discloses in the second form, the predetermined surfaces constituting the supporting members are arranged roughly parallel with one another.

With respect to claim 5, per the above discussion, the proposed system of Michael et al in view of Fowler discloses in the second form, a surface of the supporting member in which the calibration pattern is not formed is exposed to the outside.

With respect to claims 6 and 7, per the above discussion, the proposed system of Michael et al in view of Fowler fails to disclose protection sections configured to prevent direct contact between the supporting member and the calibration pattern; and between the calibration patterns themselves in the second form.

When stacking multiple calibration pattern units together for storage purpose, the use of a protection section configured to prevent damages of the calibration pattern unit is known in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the proposed system of Michael et al in view of Fowler by utilizing protection sections in order to reduce the friction between contact surfaces.

The further citation regarding to spacer sections in claim 7 would have been obvious for similar reasons set forth in discussion above.

With respect to claim 8, per the above discussion, the proposed system of Michael et al in view of Fowler fails to teach the connection sections can separate and rejoin the plurality of supporting members from/to one another.

The method of disassemble the hinges is well known to one of ordinary skill.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the proposed system of Michel et al in view of Fowler accordingly in order to provide separate calibration or modification of each supporting members.

With respect to claims 9 and 11, per the above discussion, the proposed system of Michael et al in view of Fowler discloses the hinges configured to change relative positions and postures of the predetermined surfaces of the supporting members while the predetermined surfaces are connected.

With respect to claims 10 and 12, per the above discussion, the proposed system of Michael et al in view of Fowler fails to teach fixing tools configured to fix relative positions of the predetermined surfaces of the supporting members.

The use of a fixing tool to retain the position of the supporting members is known in the art in order to provide a stationary positioning.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the proposed system of Michael et al in view of Fowler by utilizing fixing tools in order to provide a stable relationship between the imaging system and the calibration pattern, furthermore to provide better accuracy of the calibration.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Michael et al US5768443 in view of Fowler US 4689523 and in view of Navab US5923727.

With respect to 3, per the above discussion, Michael et al in view of Fowler fail to disclose in the first form, normals of the predetermined surfaces constituting the supporting members are arranged orthogonally to one other.

Navab discloses a 3D imaging system calibration model(fig.5), where normals of calibration planes are arranged orthogonally to one another.

It would have been obvious to one of ordinary skill at the time of the invention to modify the proposed system of Michel et al in view of Fowler accordingly in order to provide a more accurate 3D calibration pattern unit.

Allowable Subject Matter

Claims 13-16 are allowed, if all of the 112 rejections are resolved.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art fails to disclose a calibration pattern unit for photographing, among other features, comprising supporting members, each of which has a predetermined surface corresponding to one of one plane of three-dimensionally arranged planes and

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one curved surface of three-dimensionally arranged curved surfaces, used to obtain correction information.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Lu whose telephone number is 5712728448. The examiner can normally be reached on M-F 9:00am- 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Davide Porta can be reached on 5712722444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Handwritten signature of Tony Lu, with the initials 'TL' written below the signature.



Handwritten signature of David Porta, with the printed name and title below it.

DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800